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FIG. 1A

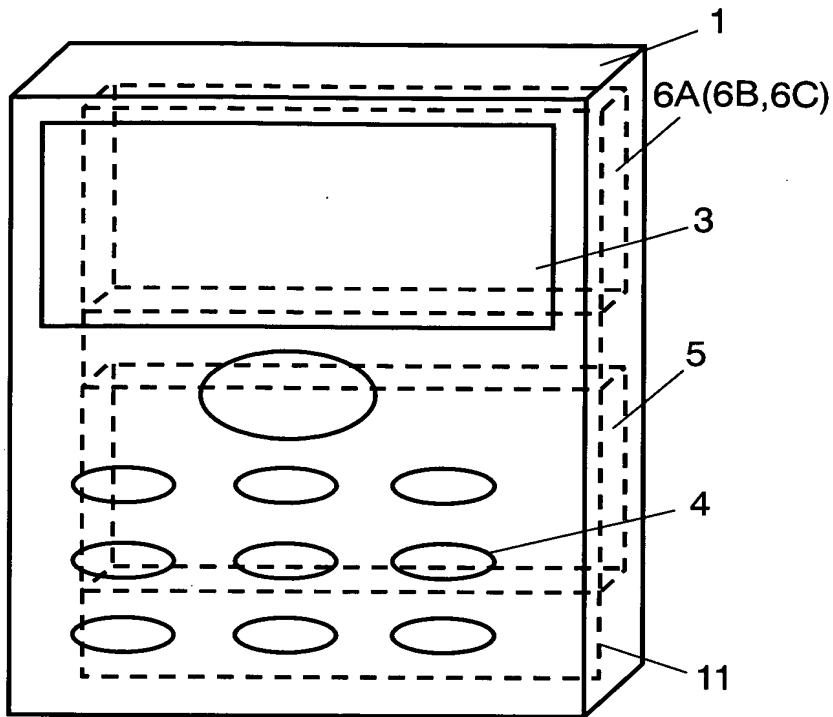


FIG. 1B

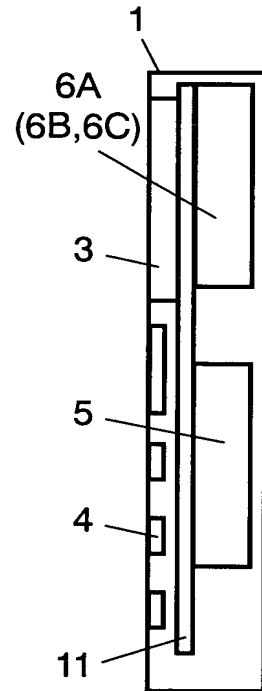
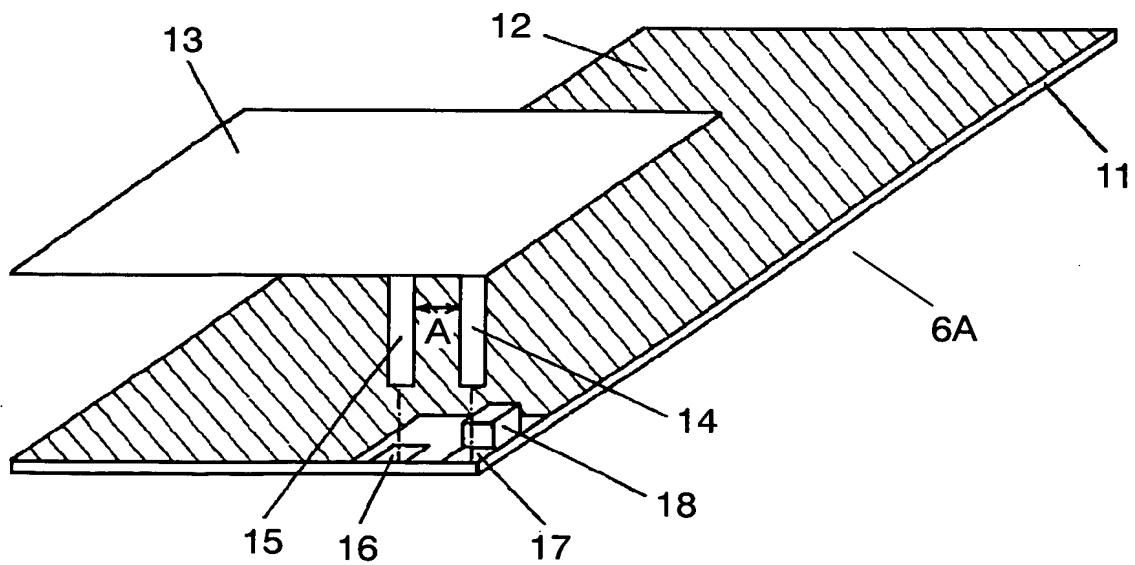


FIG. 2



The Smith Chart displays the following scales and curves:

- SWR Scale (Outermost):** Values range from 1.0 to ∞ . Key points include 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, and ∞ .
- dBS Scale (Second from Outer):** Values range from 0 to ∞ . Key points include 0.5, 0.6, 0.8, 1.0, 1.2, 1.5, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10, 12, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100, 120, 150, 200, 300, 400, 500, 600, 700, 800, 900, 1000, and ∞ .
- Reflection Coefficient Scales (Third from Outer):**
 - Voltage (V_{max}/V_{min}):** Values range from 1.0 to ∞ . Key points include 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, and ∞ .
 - Power (P_{max}/P_{min}):** Values range from 1.0 to ∞ . Key points include 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, and ∞ .
- Constant SWR Circles:** A circle passing through SWR = 1.1 and SWR = 2.5 is drawn.
- Constant dBS Arcs:** Arcs are drawn for dBS values of 0.5, 1.0, 1.5, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10, 12, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100, 120, 150, 200, 300, 400, 500, 600, 700, 800, 900, 1000, and ∞ .
- Reflection Coefficient Arcs:** Arcs are drawn for V_{max}/V_{min} and P_{max}/P_{min} values of 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, and ∞ .
- Normal Frequency Axis:** Values range from 0 to ∞ . Key points include 0, 0.5, 1.0, 1.5, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10, 12, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100, 120, 150, 200, 300, 400, 500, 600, 700, 800, 900, 1000, and ∞ .
- Constant SWR Circles:** A circle passing through SWR = 1.1 and SWR = 2.5 is drawn.
- Constant dBS Arcs:** Arcs are drawn for dBS values of 0.5, 1.0, 1.5, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10, 12, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100, 120, 150, 200, 300, 400, 500, 600, 700, 800, 900, 1000, and ∞ .
- Reflection Coefficient Arcs:** Arcs are drawn for V_{max}/V_{min} and P_{max}/P_{min} values of 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, and ∞ .

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FIG. 5

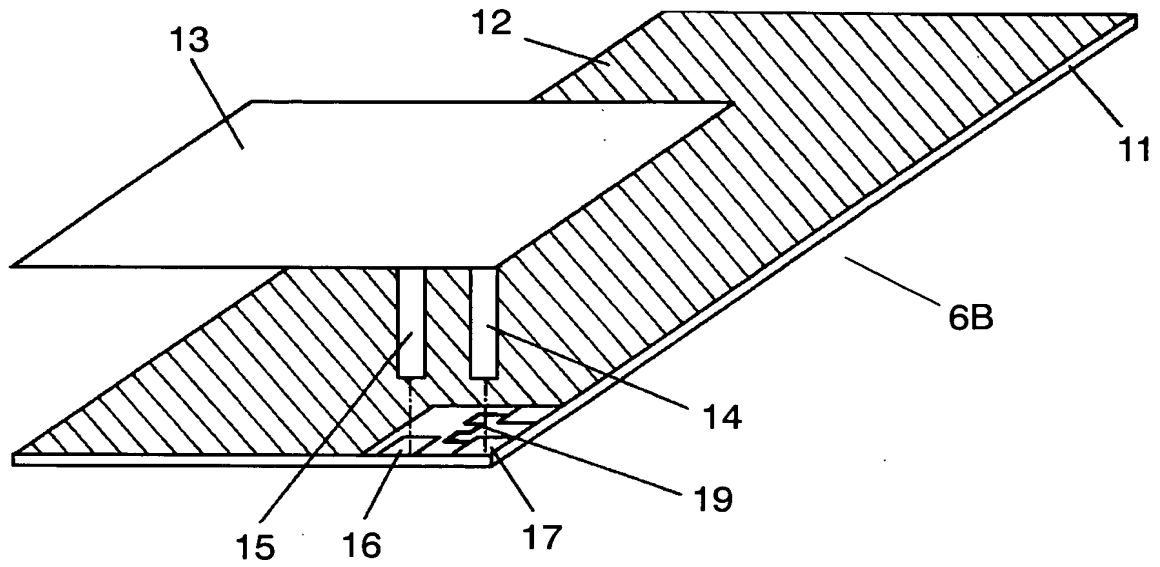


FIG. 6

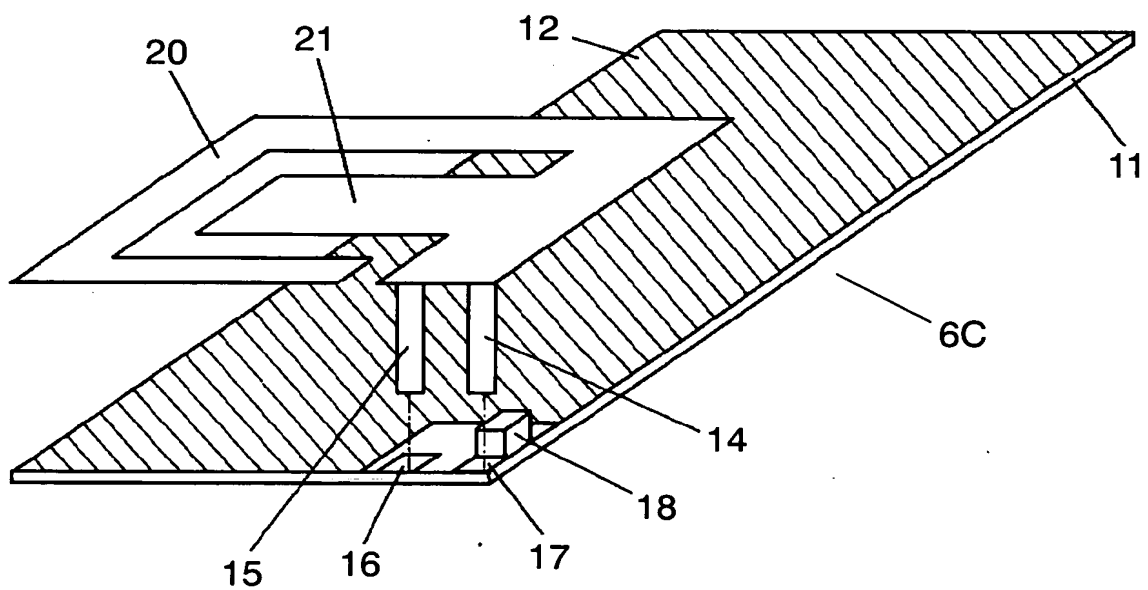


FIG. 7A

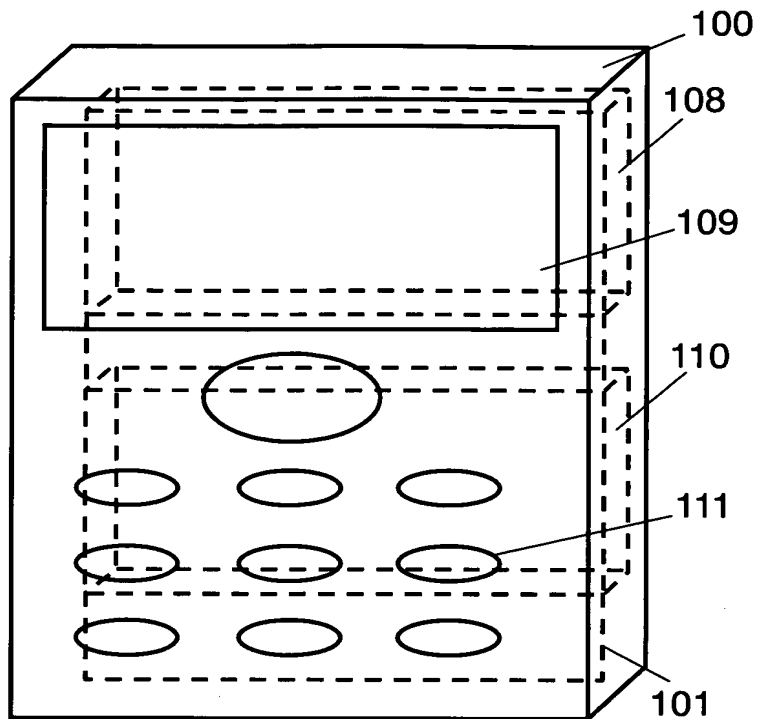


FIG. 7B

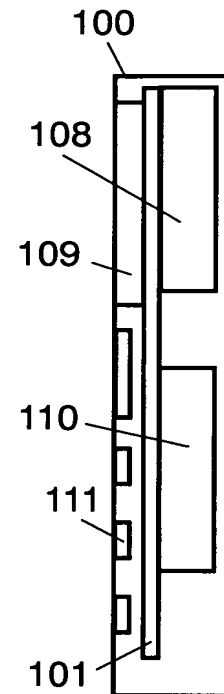
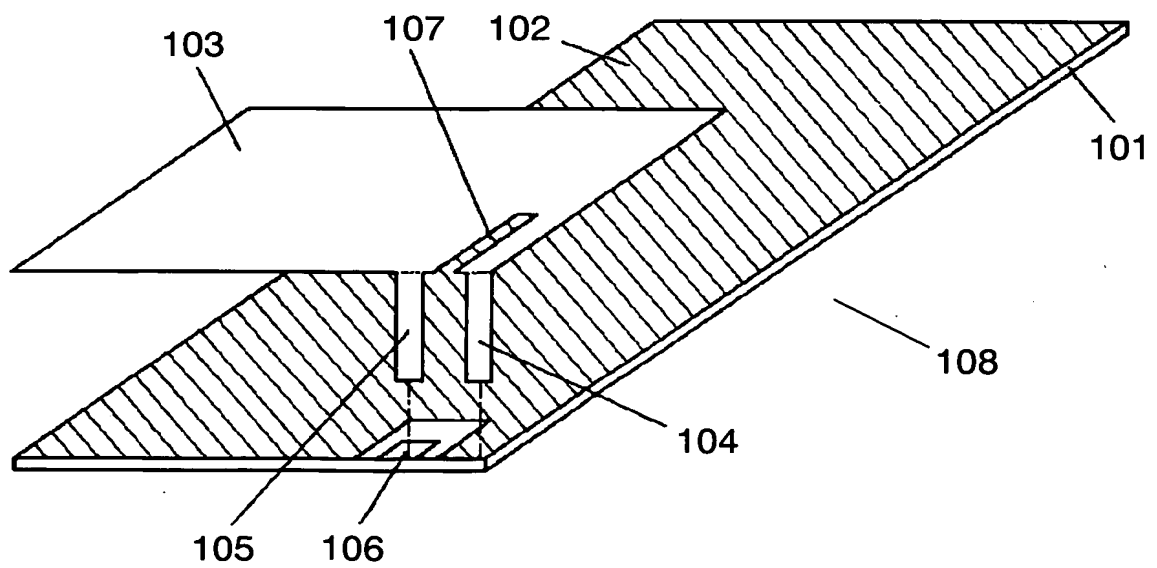


FIG. 8



Reference marks in the drawings

1. housing
3. output unit
4. input unit
5. circuit
- 6A, 6B, 6C planar inverted-F antenna
11. circuit board
12. ground plate
13. radiator
14. short line
15. feed line
16. feed terminal
17. terminal
18. chip coil
19. circuit pattern
20. first radiator
21. second radiator
30. characteristic curve
100. housing
101. circuit board
102. ground plate
103. radiator
104. short line
105. feed line
106. feed terminal
107. slit
108. planar inverted-F antenna
109. display
110. circuit
111. input unit
120. characteristic curve